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DEPARTMENT OF COMMERCE  
BUREAU OF STANDARDS  
WASHINGTON

Letter  
Circular  
LC 234

(August 11, 1927)

TESTING LABORATORIES  
EQUIPPED FOR THERMAL EXPANSION  
TESTS OF SOLIDS

Compiled by the Thermal Expansion Laboratory of the Bureau of Standards, from the replies to a questionnaire which was distributed to educational institutions and commercial laboratories and which was published in the Bureau's Technical News Bulletin No. 119, March 1927.

The Bureau of Standards, in accordance with law, makes tests and carries out investigations for Government Departments, and for the public when such tests and investigations can not be satisfactorily carried out elsewhere. On account of the large amount of Government work, it is impracticable for the Bureau to make tests for private individuals or companies if other laboratories can satisfactorily do the work. The increase in requests for expansion tests at the Bureau has increased the delay which necessarily occurs before a given test can be carried out and has made it impossible for the Bureau to devote as much time as it should to researches on thermal expansion.

The attached list has been prepared to inform persons interested, of the location of laboratories equipped to do such work and of the types of tests which these laboratories state they are prepared to carry out.

The Bureau is not able to give all details of sizes of specimens required, accuracy of results and cost of tests. These matters should be taken up with the individual laboratories selected to do the testing.

Information Section  
Bureau of Standards, Washington

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DIRECTOR'S OFFICE  
BUREAU OF STANDARDS



| State       | City      | Laboratory                                                                                         | Temperature Range                 | Remarks                                                                                                                                |
|-------------|-----------|----------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| California  | Pasadena  | Dr. Robert C. Burt<br>327 So. Michigan Ave.                                                        |                                   |                                                                                                                                        |
| Connecticut | Hartford  | Stanley P. Rockwell Co.<br>66 Trumbull Street                                                      | 100 to 1700° F                    | Rockwell dilatometer.<br>Samples from 1 to 6 inches in length.<br>Lateral dimensions from 1/4 to 2 inches.                             |
| Georgia     | Atlanta   | Georgia School of Technology, Attn: Prof. A.V. Henry, Dept. of Physics                             | Room temperature to 900° C        | Self-recording expansion apparatus. Samples 6 inches long, 1 inch cross-section.                                                       |
| Illinois    | Urbana    | University of Illinois, Attn: Prof. C.W. Parmelee, Dept. of Ceramic Engineering                    | Room temperature to about 1000° C | Interferometer and also equipment to measure expansion directly.<br>Samples for latter equipment about 9 inches long, 1 inch diameter. |
| Iowa        | Ames      | Iowa State College, Attn: Prof. S.W. Beyer, Dean, Division of Industrial Science                   |                                   |                                                                                                                                        |
| Iowa        | Iowa City | The State University of Iowa, Attn: Prof. N.O. Taylor, Dept. of Chemistry and Chemical Engineering | 0 to 200° C                       | Interferometer. Samples about 2 cm. in length and 1 cm. in diameter.                                                                   |



| State          | City        | Laboratory                                                                                                                          | Temperature Range           | Remarks                                                                             |
|----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|
| Massachusetts  | Boston      | Simmons College, Attn: Prof. L.L.Campbell, Dept. of Physics                                                                         |                             | Rods of solids. Micrometer screws. The accuracy is a small fraction of one per cent |
| Massachusetts  | Cambridge   | Prof.Gordon E.Wilkes, Massachusetts Institute of Technology,Laboratory of Heat Measurements                                         | Room temperature to 1500° C | Interferometer, micrometer eyepiece telescopes, etc.                                |
| Minnesota      | Minneapolis | The University of Minnesota, Attn: Prof. Frank B.Rowley,Director, Experimental Engineering Laboratories                             | Up to 300° F                |                                                                                     |
| New York       | New York    | New York Testing Laboratories,Attn:L.R.Scidell, Managing Director, 80 Washington Street                                             | Room temperature to 600° F  |                                                                                     |
| New York       | Troy        | Rensselaer Polytechnic Institute, Attn: Prof. Wm.Lispenard Robb, Dept.of Physics and Electrical Engineering, Russel Sage Laboratory | 20 to 1000° C               | Differential expansion method, and dividing engine                                  |
| North Carolina | Chapel Hill | University of North Carolina, Physics Dept.                                                                                         |                             | Elementary tests only                                                               |



| State        | City       | Laboratory                                                               | Temperature Range           | Remarks                                                                                                         |
|--------------|------------|--------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------|
| Pennsylvania | Pittsburgh | Pittsburgh Testing Laboratory, Attn: J. W. Reifsnyder                    | Room temperature to 212° F  | Simple tests<br><br>Maximum dimensions of samples are 4 1/2 x 7 inches in cross-section and 13 inches in length |
| Texas        | Houston    | Rice Institute, Attn: Prof. J. H. Pound, Dept. of Mechanical Engineering |                             |                                                                                                                 |
| Washington   | Seattle    | Northwest Testing Laboratories, Attn: J. L. Avis, 2113 Third Ave.        | Room temperature to 2500° F |                                                                                                                 |





